



# MINOS Detector Status

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Installation Review

February 12-13, 2004



# Outline

- MINOS Project L2 system status
- Pre B.O. Preparation
- Post B.O. Infrastructure Tasks
- Detector Installation Tasks
- Schedule and Milestones



# L2 System Status

- WBS 2.1 Steel and Coils
    - DONE
    - ND Steel Delivery completed 2002
  - WBS 2.2 Scintillator Detector
    - DONE
    - All ND Planes completed December 2002
  - WBS 2.3 Electronics & DAQ
    - 2.3.1 Near FEE
    - 2.3.2 Far FEE - *complete*
    - 2.3.3 Data routing & Trigger
    - 2.3.4 DAQ & Trigger
    - 2.3.5 Database - *complete*
    - 2.3.6 Clock
    - 2.3.7 Near Mgt
    - 2.3.8 Slow Control & Monitoring
    - 2.3.9 HV - *complete*
  - WBS 2.4 Far Detector Installation
    - DONE
    - 2 magnetized Super Modules operational since August 2003
  - WBS 2.5 Near Detector Installation
    - 2.5.1 Infrastructure
    - 2.5.2 Plane Assembly - *Complete*
    - 2.5.3 Installation
    - 2.5.4 Facility Infrastructure
    - 2.5.5 SB&O sub contract
- Moving the few remaining 2.3 installation tasks to 2.5*

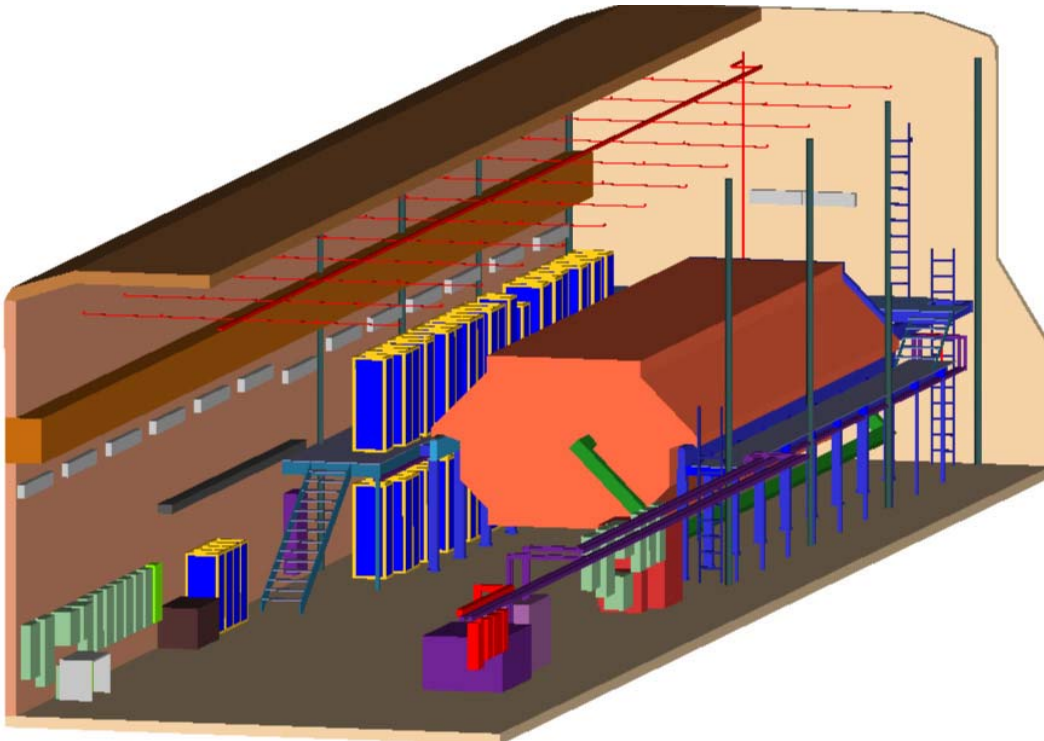


# The MINOS Far Detector





# The Near Detector



- 3.8 x 4.8m “octagonal” steel & scintillator tracking calorimeter
- Same basic construction, sampling & response as the far detector
- 282 planes of steel
- 153 planes of scintillator
- 980 ton total mass**





# Near Detector Electronics

	Need	Have
<b>Modules</b>		
MENU	9328	10400
MINDER	583	641
MASTER	81	89
<b>Crates</b>		
MINDER	45	45
VME Master	9	11
<b>Power Supplies</b>		
MINDERS	45	45
VME	9	11
<b>Clock System</b>		
Minder Timing Module	45	45
VME Timing Module	10	0



MINDER Module with MENU cards

- All production except for VTM - complete (have prototype from Caldet)
- All MENU card check out - complete
- 70% of all other modules checkout complete
- 9-plane commissioning in progress at New Muon



# Pre B.O. Preparation

- @New Muon Lab
  - Instrumented and blank planes
  - Electronics racks
    - 26 FEE
    - 8 Master (3LI)
    - 2 HV
    - 1 clock
    - 3 DAQ
  - DAQ computers
  - PMTs (Alner Boxes)
  - Cables
    - FEE/RO
    - HV
    - LI
- ES&H
  - Preparation of JHAs, Installation Procedures, training.....

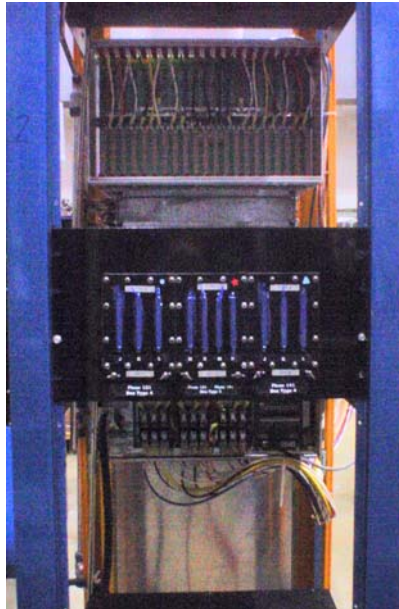


April '03



# Electronics Racks

Feb. '04







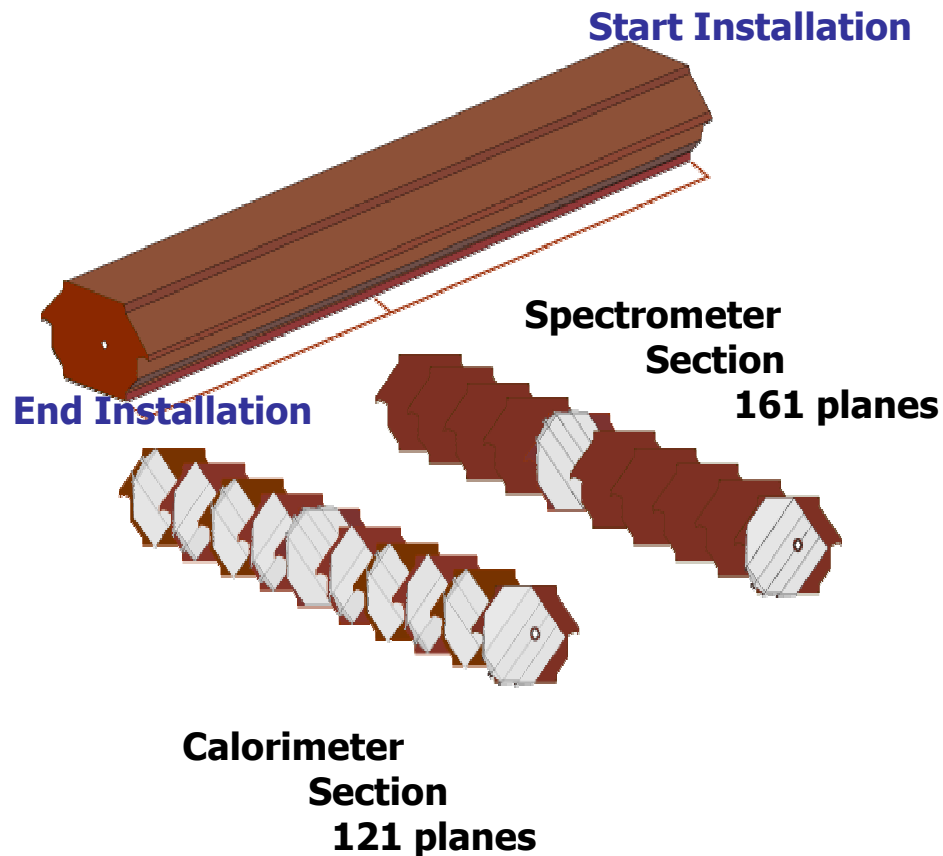
# Post B.O. Infrastructure Tasks

- T&M Electrical
  - Cable trays and outlets for electronics racks
- CD -Local Area Network
- Bring down fork-lift, manlifts, plane transport cart
- Install alignment network and rails for planes
- Set-up work areas
- Install Plane [281](#); 280,279,278,277,[276](#) for validate of all procedures and installation time estimates



# Near Detector Plane Installation

- Spectrometer Section
  - Days : install 4 blank & one instrumented plane per day
  - Evenings : commission plane
  - Goal : 8 sets per two week period
    - Commission two full minder crates every other weekend
    - Branch 4 done by end of week 9
- Calorimeter section
  - Days : install 2 instrumented planes per day
  - Evenings : commission planes
  - Goal : 7 sets per two week period
    - Commission two full minder crates (1 branch) in 6 weeks





# Magnet Installation

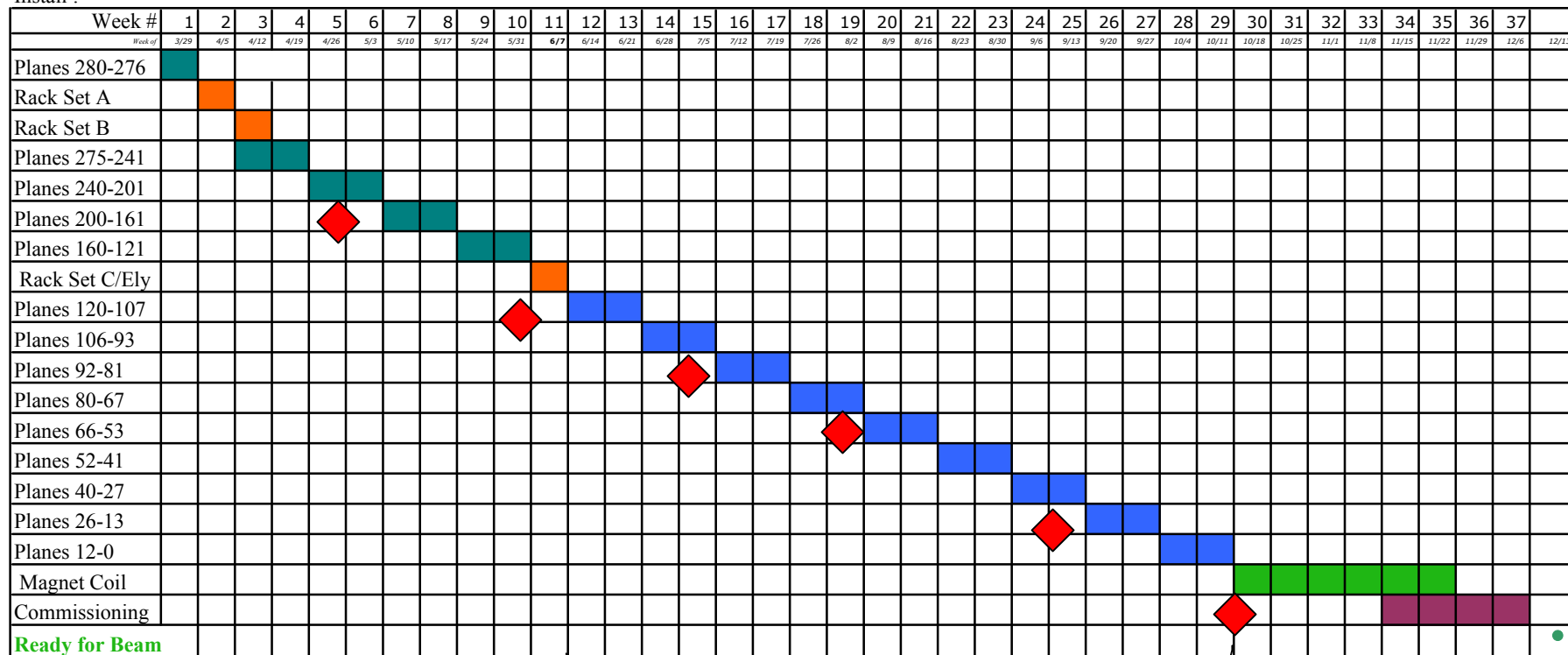
- Coil in storage @ D0
  - Transport and lower into MINOS Hall sometime in summer (i.e. between Spectrometer & Calorimeter Sections)
- Installation Procedures
  - Internal review : Jan 27; no major issues
- Need 4-6 weeks to install





# Schedule and Milestones

Install :



Spectrometer Planes

Calorimeter Planes

*My scenario -> Cat to get us installed before end of calendar '04!*